Reg. No.												

Question Paper Code	12701

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Sixth Semester

Electronics and Communication Engineering

20ECEL602 - WIRELESS SENSOR NETWORKS

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	What is an ad hoc wireless network?	2	K1	CO1
2.	Write the merits and demerits of sensor networks.	2	K1	CO1
3.	Define data dissemination.	2	K1	CO2
4.	List the need of clustered architecture in sensor nodes.	2	K1	CO2
5.	Define Assignment of MAC address.	2	K1	CO3
6.	Compare any two contention based protocols.	2	K2	CO3
7.	Mention the various types of topology.	2	K1	CO5
8.	What is sensor tasking?	2	K1	CO5
9.	How does TinyOS support Berkeley mote?	2	K1	CO6
10.	Name the component interfaces of nesC.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain the different applications of wireless sensor networks.	13	K2	CO1
		OR			
	b)	Describe the types of wireless sensor networks in a brief manner.	13	K2	CO1
12.	a)	Illustrate the RF front end of a transceiver and outline the behavior of operational states.	13	K2	CO2
		OR			
	b)	Explain Sensor Network Scenarios with neat diagram.	13	K2	CO2
13.	a)	Outline the low energy adaptive clustering hierarchy (LEACH) protocol for wireless sensor networks.	13	K2	CO3
		OR			
	b)	Explain in detail low duty cycle MAC protocols.	13	K2	CO3

14. a) Discuss in detail any two localization and positioning algorithms. *13 K2 CO5*

OR

b) Explain sensor tasking and control mechanism in detail. *13 K2 CO5*

15. a) Explain how the TinyOS operating system supports resource constrained hardware platforms. *13 K2 CO6*

OR

b) Describe the components and implementation models of Timer functions in nesC. *13 K2 CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Discuss the SPIN (Sensor Protocols for Information via Negotiation) with a neat diagram. *15 K2 CO4*

OR

b) Explain the various challenges of WSN routing protocols. *15 K2 CO4*